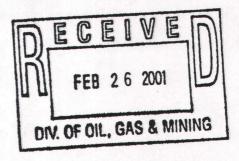
m/035/002



Proposal to the Utah State NRD
Trustee and USEPA CERCLA
Remedial Project Manager
for a Groundwater Extraction and
Treatment Remedial Project in the
Southwest Jordan Valley

-SEE POUND VOLUME CONTENTS

-SEE POUND VOLUME CONTENTS

FOR COMPLETE CONTENTS

KENNECOTT UTAH COPPER CORPORATION JORDAN VALLEY WATER CONSERVANCY DISTRICT

Proposal to the Utah State NRD Trustee and
USEPA CERCLA Remedial Project Manager
for a

Groundwater Extraction and Treatment Remedial Project
In the Southwestern Jordan Valley

Submitted December 16, 1999 Revised April 28, 2000 Revised January 15, 2001

Table of Contents

1.0 INTRODUCTION
1.1 Executive Summary
2.0 BACKGROUND 3
2.1 Natural Resource Damage Claim and Consent Decree (UDEQ) 3
2.2 Federal CERCLA Requirements (USEPA)
2.3 KUCC/JVWCD Study and Conceptual Design 6
2.4 JVWCD System and Service Area
3.0 PURPOSES OF PROPOSED PROJECT
3.1 Meet the Requirements and Intent of the NRD Consent Decree 8
3.2 Meet the Intent and Remedial Requirements of CERCLA
3.3 KUCC/JVWCD Purposes
4.0 AFFECTED AREA AND PUBLIC
4.1 Affected Area
4.2 Public in the Affected Area
5.0 PROPOSED PROJECT
5.1 General
5.2 Groundwater Extraction
5.3 Collection Pipelines
5.4 Water Treatment Plants
5.5 Healed Waler Deliveries
5 D
6.0 GROUNDWATER IMPACTS AND REMEDIATION
6,1 Groundwater wodering
6.2 Avaiodeology
0.5 Fluine Contraction and Contamination
7.0 WATER RIGHTS AND MANAGEMENT WITHIN AFFECTED AREA 20
7.1 Consent Decree Requirements
7.5 Proposed Change Applications for the Forest First
6.1 Capital Costs for Deep Groundwater Extraodiction
0.2 Capital Cost Estimates for Challett Challett
8.4 Operation, Maintenance and Replacement Costs
8.6 Avoided Operating Costs
8.7 Total Cost Estimate
O O DECTEUNDING 2
10.0 OPERATION, MAINTENANCE, REPLACEMENT RESPONSIBILITIES . 3
10.1. Zone A Facilities
10.2 Zone B Facilities (for Deep Groundwater Extraction)
10.3 Zone B Facilities (for Shallow Groundwater Extraction)

12.0 SCHEDUL 12.1 Proposed 12.2 Design . 12.3 Construct 12.4 Facilities 13.0 LIABILITY 13.1 Liability . 13.2 Proposed	ION OF PROJECT BENEFITS E, DESIGN & CONSTRUCTION, FACILITIES OWNERSHIP d Project Schedule ction Ownership AND AGREEMENTS d KUCC/JVWCD Agreements with State of Utah and USEPA d KUCC/JVWCD Agreement	40 40 41 42 42 43 43 43
13.4 KUCC//\	/WCD Agreement ("The Project Agreement")	
13.5 KUCC/J\	/WCD Agreement with the State of Utah ("The State	
Agreeme	ent")	45
14.0 ZONES A	AND B RATIONALE	. 46
14.1 Zone A .		46
	INTENT OF NRD CONSENT DECREE	
	USEPA CERCLA REQUIREMENTS	
	Figures	
Figure 2.4A	Jordan Valley Water Conservancy District Customers and Boundaries	
Figure 2.4B	Jordan Valley Water Conservancy District Water System	
Figure 4.1A	S.W. Jordan Valley Highest Sulfate Concentration Data	
Figure 4.1B	Zones in Affected Area	
Figure 4.2A	Municipal Areas Impacted by Elevated Sulfate	
Figure 5.2A	Proposed Groundwater Extraction and Treatment System	
Figure 5.4A	Zone A Plume-Treatment Flow Chart	
Figure 5.4B	Zone B Plume-Treatment Flow Chart	
Figure 7.2A	Approved Municipal Groundwater Rights in the Affected Area	
Figure 8.5A	JVWTP Groundwater Development Project in Southwest Sa Lake Valley, Absent Mining Contamination	IÉ
Figure 11.0A	Affected Municipal	
Figure 14.1A-1	Sulfate contours Layer 4	
Figure 14.1A-2	<u>-</u>	

Tables

Table 2.1 Table 5.2 -	State NRD Trust Fund Annual Groundwater Extraction Volumes	12
Table 5.4A -	Treatment Plant Flows	13
Table 5.6A -	Effect of Zone A Reverse Osmosis Concentrate on Tallings Line	е
1 4510 0.07	Chemistry	14
Table 5.6B -	Project Concentrate Flows	15
Table 7.2A -	Municipal Water Rights	ZU
Table 7.2B -	Kennecott Water Rights	20
Table 7.2C -	Shallow Groundwater Rights	41
Table 7.3A -	Proposed Water Right Charges	21
Table 8.5A -	Estimate for Avoided JVWCD Capital Cost of Groundwater	
	Development Absent Mining Contamination 25	-26
Table 8.7A -	Present Worth Cost of Proposed Project (in 1999 dollars)	21
Table 8.7B -	Present Worth Cost of Proposed Project (in 2000 dollars)	20
Table 9.0A -	Distribution and funding of Project Costs 31	-32
Table 11.0A -	Allocation of Zone A Treated Water Among Affected	
	Municipalities	36
Table 11.0B -	Illustration of Discounted Wholesale Water Rate Methodology	Ю
	Zone A Treater Water	30
Table 12.1A -	Proposed Project Schedule	4
Table 12.2A -	Design Responsibility	112
Table 12.4A -	Ownership of Facilities for Proposed Project	42
Table 14.1A -	JVWCD Water Purchase contacts with Affected Municipalities	10
Table 15.0A -	Intent of NRD Consent Decree Suntain	50
Table 15.0B -	Groundwater Extraction and Treatment System	. J
	Appendices	
	Groundwater Model	
B. Record	of Decision (USEPA)	
C. Draft -	KUCC/JVWCD Project Agreement	
D. Jordan	River concentrate discharge	
E. Revise	d Flow and Transport Model for Southwestern Jordan Valley	
F. Ground	dwater Rights in Affected Area	
	o State Engineer	
H. Update	ed CDM Memorandum	
	ion of Zone A water to the Affected Municipalities	
	of Support	
K. Draft -	State Agreement	
L. Zone E	3/Lost Use Pilot Testing Scope of Work	

KENNECOTT UTAH COPPER CORPORATION JORDAN VALLEY WATER CONSERVANCY DISTRICT

Proposal to the Utah State NRD Trustee and USEPA CERCLA Remedial Project Manager for a

Groundwater Extraction and Treatment Remedial Project In the Southwestern Jordan Valley

Submitted December 16, 1999 Revised April 28, 2000 Revised January 15, 2000

1.0 INTRODUCTION

Kennecott Utah Copper Corporation (KUCC) and the Jordan Valley Water Conservancy District (JVWCD) make this joint proposal to Dr. Dianne R. Nielson, the Utah Trustee for natural resource damage (NRD), who also acts as Director of the Utah Department of Environmental Quality (UDEQ). In addition, the proposal has been made to Dr. Eva J. Hoffman, the United States Environmental Protection Agency (USEPA) Remedial Project Manager for the KUCC Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site remediation. Dr. Hoffman has conducted a public hearing and a public comment period pertaining to this proposal.

KUCC and JVWCD propose to develop and construct a groundwater extraction and treatment project with groundwater remedial functions that will provide treated, municipal quality water to the public in the Affected Area¹ of the southwestern Jordan Valley (SWJV). KUCC and JVWCD seek to utilize the trust fund set up under the 1995 NRD Consent Decree, in a manner consistent with the terms of the Consent Decree and to restore the equivalent injured resource.

The concepts of this Proposal have been presented to the governing organizations of Herriman City, Riverton City, South Jordan City and West Jordan City.

¹Affected Area is defined in Section 4.0.

1.1 Executive Summary

In summary, the Proposal:

- Is designed to furnish up to 9,300 AF/year of municipal quality water to be provided to the public in the Affected Area
- Includes the construction and operation of two reverse-osmosis water treatment plants
- Includes construction and operation of pipelines and extraction wells
- Seeks to utilize all portions of the Trust Fund, except that relating
 to administration costs. As such, KUCC's portion of the Proposal
 seeks to use all the funds available under the Irrevocable Letter of
 Credit (ILC), which will be replaced with the Zone A/LC and Zone
 B/LC thereby reducing the ILC to zero after the proposed project
 is constructed and operating. JVWCD seeks the balance of the
 Trust Fund to supply (restore or replace) the remaining amount of
 municipal quality water contemplated by the Consent Decree,
 including replacement of lost concentrate water
- Provides additional costs and in-kind contributions to the Proposal of \$180 million by KUCC, and. \$21 million by JVWCD
- Anticipates providing municipal quality water to the public in the Affected Area by December 2004 if pilot testing begins by January 2001, and if the Proposal is approved by May 2001.
- Presents a proposed allocation of water rights to the Utah State Engineer. The allocation of water rights is necessary to meet the intent of the NRD Consent Decree. KUCC and JVWCD submitted change applications in July 2000 to accomplish the proposed allocations
- Integrates the CERCLA remedial response for the Bingham Creek acid and elevated sulfate plume with the actions required to satisfy the NRD Consent Decree.

"This Proposal provides an overview of the expected development of the Project. Because the Project is intended to be ongoing for more than forty years, not all circumstances can be anticipated, much less addressed. Many of the circumstances, as well as the definitive rights and obligations of KUCC, JVWCD and the State, are addressed in the agreements attached as Appendices C and K. The agreements include flexibility in the development of the Project, although the Trust Fund is not utilized until the plants have been constructed and are operating and consistent with this Consent Decree."